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TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Application Number	10/614,754
Filing Date	July 8, 2003
First Named Inventor	ZEENAT, Jetha
Art Unit	2672
Examiner Name	
Attorney Docket Number	16350-32US

Total Number of Pages in This Submission

ENCLOSURES *(Check all that apply)*

- [✓] Fee Transmittal Form
- [ ] Fee Attached
- [ ] Amendment/Reply
- [ ] After Final
- [ ] Affidavits/declaration(s)
- [ ] Extension of Time Request
- [ ] Express Abandonment Request
- [✓] Information Disclosure Statement
- [✓] Certified Copy of Priority Document(s)
- [ ] Response to Missing Parts/ Incomplete Application
- [✓] Response to Missing Parts under 37 CFR 1.52 or 1.53
- [ ] Drawing(s)
- [ ] Licensing-related Papers
- [ ] Petition
- [ ] Petition to Convert to a Provisional Application
- [ ] Power of Attorney, Revocation Change of Correspondence Address
- [ ] Terminal Disclaimer
- [ ] Request for Refund
- [ ] CD, Number of CD(s) _____
- [ ] After Allowance communication to Technology Center (TC)
- [ ] Appeal Communication to Board of Appeals and Interferences
- [ ] Appeal Communication to TC **(Appeal Notice, Brief, Reply Brief)**
- [ ] Proprietary Information
- [ ] Status Letter
- [✓] Other Enclosure(s) (please Identify below):

Letter Re: Priority Claim

Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Joseph Conneely, Registration No. 54,883
Signature	J. Conneely
Date	November 11, 2003

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ATTORNEY DOCKET NO.: 16350-32US

IN THE UNITED STATES PATENT & TRADEMARK OFFICE

In re patent application of:

ZEENAT, Jetha et al.

Serial No.: 10/614,754 Group Art Unit: 2672

Filed: July 8, 2003

Title: Using Detail-In-Context Lenses For Accurate Digital Image Cropping And Measurement

November 11, 2003

The Commissioner of Patents & Trademarks
Washington, D.C. 20231

PRIORITY CLAIM

Dear Sir:

The benefit of the filing date in Canada of a patent application corresponding to the above-identified application, is hereby claimed under Rules 37 CFR 1.55 and 35 U.S.C. 119 in accordance with the Paris Convention for the Protection of Industrial Property. Certified copies of the corresponding Canadian patent applications bearing Serial Nos. 2,393,708 filed July 16, 2002 and 2,394,119 filed on July 18, 2002 are submitted herewith.

Respectfully submitted,

Nov. 11/03
Date

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La présente atteste que les documents ci-joints, dont la liste figure ci-dessous, sont des copies authentiques des documents déposés au Bureau des brevets.

Canadian Patent Office

Certification

This is to certify that the documents attached hereto and identified below are true copies of the documents on file in the Patent Office.

Specification and Drawings, as originally filed, with Application for Patent Serial No: **2,393,708**, on July 16, 2002, by **IDELIX SOFTWARE INC.**, assignee of Zeenat Jetha, Andrew Carlisle, Andrew Skiers and David Baar, for "Applications of Multiple Lenses in Detail-In-Context Data Presentations".

Agent certificateur/Certifying Officer

July 16, 2003

Date

Canada

(CIPO 68)
04-09-02

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Applications of Multiple Lenses in Detail-In-Context Data Presentations

Background

The option of multiple lenses in detail in context data presentations until now has mostly been used to compare two areas of interest at the same time. Folding enhances this comparison by allowing the user to pull the areas of interest closer together. However, the use of multiple lenses may be used in more powerful ways. The ideas below describe applications conducive to multiple lenses.

Description of cropping with multiple lens

One of the most common, yet troublesome, tasks is to precisely crop areas of interest. Generally the user needs to pinpoint at least two points to define a rectangle (top left and bottom right), or more points to define an arbitrary polygonal shape. Zooming into the image prevents other important points from being visible. However, by using multiple lenses, this task becomes trivial. This section describes the process of cropping with multiple lenses.

Details

Imagine having to crop the image below with pixel precision from the top corner of the states to the bottom corner of Florida. Using the multiple lens idea, the user may first define two lenses. The lenses are position at the top left and bottom right corners of the rectangle that will later be used to define the cropping area. The detail in the focus of the lenses are magnified to pixel quality resolution making it easy to see exactly where the boarder meets the land in the top left lens and tip of Florida in the bottom right lens. Figure 1 shows these two lenses in place.

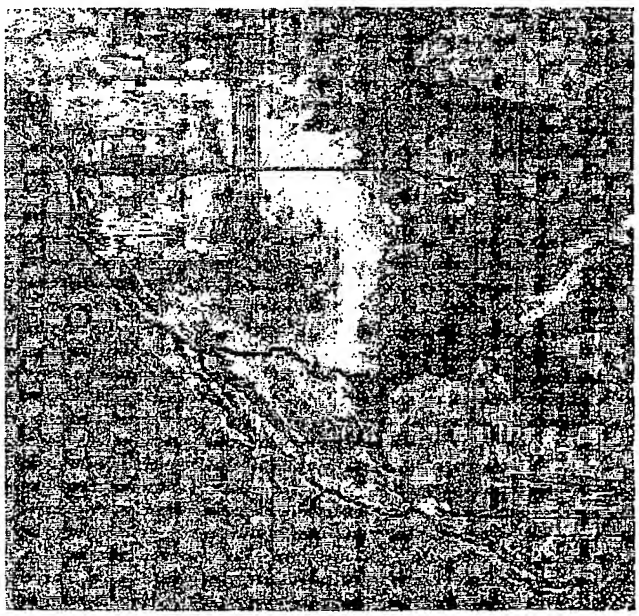

Figure 1. Two lenses defining the endpoints of a rectangle.

Once the lenses are in place, the user may use an existing tool to crop the image. In Figure 2, the user has defined a cropping area with a rectangle. The rectangle, defining the cropping area, may also be displaced by the lens, however, in this example, this is not the case.

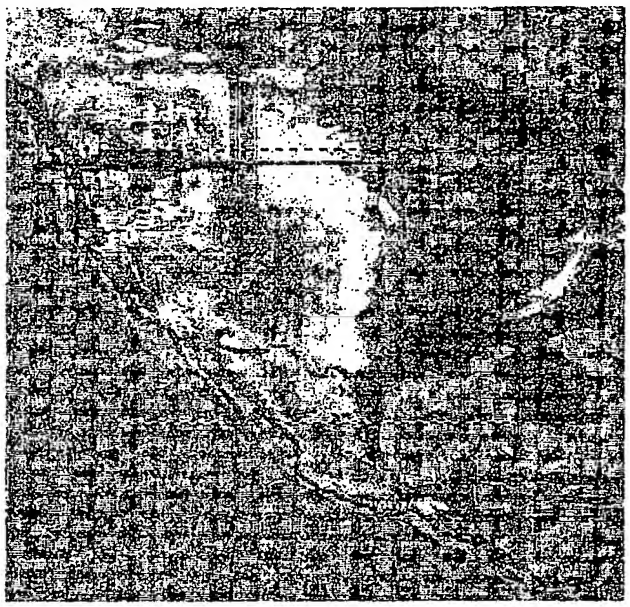

Figure 2. Cropping an area at pixel level through two lenses.

Variations

1. Multiple lenses may be defined for a polygonal shaped cropping. The cropping line may pass through each lens.
2. In the example above, two lenses were added to the scene before the crop rectangle was defined. However, the lens itself could become a cropping tool. That is, the user may first add a lens or move a preexisting lens into place (say the top left corner). Now, the cropping rectangle tool may be selected. As the bottom right corner of the crop rectangle moves to its next position, a new lens appears and moves with it.
3. In variation 2, the cropping shape is a rectangle; so only two lenses are required. However, the crop may be a polygonal shape. The end point of the crop line is attached to a lens. As the endpoint moves, the lens moves, too. Every time the user defines an endpoint of a line segment, a new lens may be added.
4. Once a cropping rectangle or polygon has been selected, a lens may use the cropping polygon as a guide path such that the lens can be moved continuously along the path by the user for inspection of the entire polygon perimeter, not just the ends of the line segments.

Description of measuring with multiple lens

Measuring distances between points may be achieved with better accuracy through a lens. The user may first add a number of lenses which each show high resolution data in the focus of the lens.

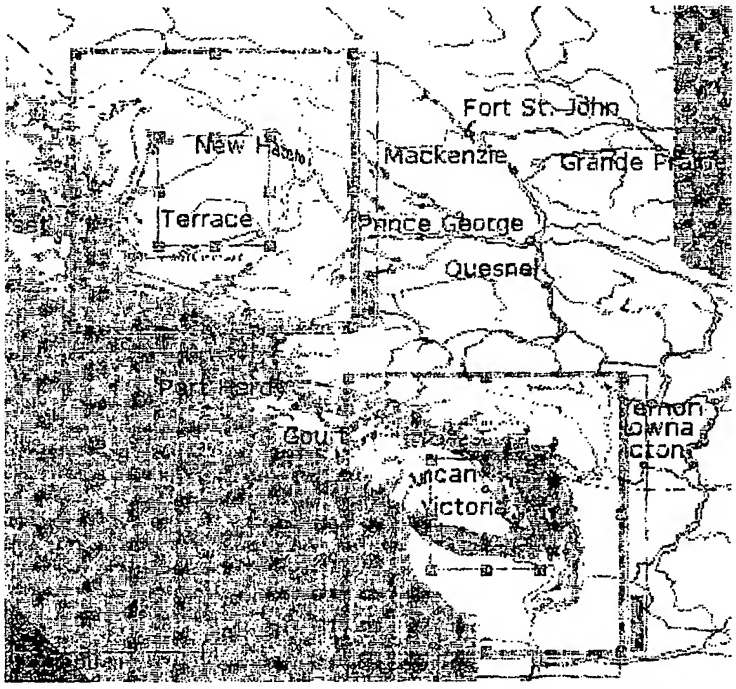

Figure 3. Place lenses in locations of interest.

Next a measurement tool may selected to determine the distance between the towns, or locations of interest. Since the region in the focus of the lens contains an image at a higher resolution, the measurement taken is more accurate.

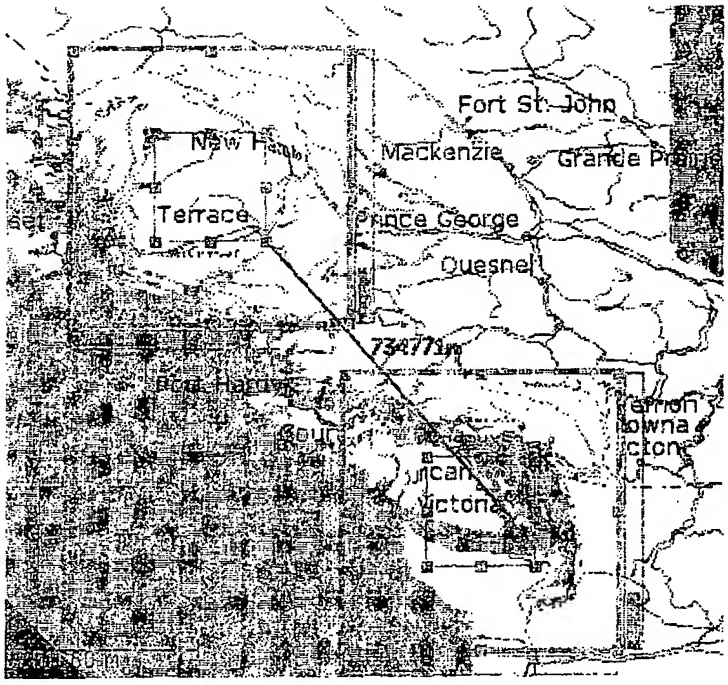

Figure 4. Take measure through lens.

Variations

The lens may be used in conjunction with the measure tool. The starting point of the measure tool may be associated with a lens. The end point of the measure tool may also be attached to the center of the lens. As the endpoint moves, the lens moves with it. At the end of every intermediate line segment, a new lens may be added to the scene.